DESCRIPTION

A Mammary Prosthesis Made of Polyacrylamide Hydrogel

FIELD OF THE INVENTION

The present invention relates to a medical plastic cosmetic surgery material. More specifically, it relates to a kind of mammary prosthesis that is used in plastic and cosmetic surgery.

BACKGROUND OF THE INVENTION

A mammary prosthesis made of liquid silicon or silicon gel had been applied to be implanted into the breasts in traditional plastic surgery for breasts. Although they touched good and enhanced breast beauty, there existed the problem of silicon leakage or spontaneous implant rupture. And the toxic silicon could induce breast granuloma and affect the immunological functions of the body, and could be even carcinogenic. In order to solve these problems, saline, vegetable oil and protolysate are filled into the mammary prosthesis. Although this can partly solve the problem of toxicity and other complications, they touch not so perfect as liquid silicon implants.

OBJECTS OF THE INVENTION

The object of the present invention is to provide a new type of mammary prosthesis which can overcome the drawbacks mentioned above. It touches good and guarantees

safety, whether the mammary prosthesis is ruptured or not.

SUMMARY OF THE INVENTION

The object of the present invention can be implemented by constructing mammary prosthesis made of polyacrylamide hydrogel, which comprising a shell 2 that is made of medical high polymer elastic material; said shell 2 is filled with polyacrylamide hydrogel 4.

In the above mammary prosthesis, said medical high polymer elastic material is silicone.

In the above mammary prosthesis, said polyacrylamide hydrogel 4 is made by adding 2.5-7g polyacrylamide dry powder into every 100ml water.

In the above mammary prosthesis, the weight percentage of said polyacrylamide hydrogel 4 is: 2.5 - 8% acylamide, 0.001 - 3.0% cross-linking agent, 0.001 - 4.00% catalyst, 0.001 - 2.00% accelerator, 0.001 - 2.00% facilitator and the other is sterile secondary distilled water.

In the above mammary prosthesis, said cross-linking agent is N , N ´ -methylenebisacrylamide and its homologous compound, or N , N ´ -diallyltartratdiamide; and said catalyst is ammonium persulfate or kalium persulfate; and said accelerator can be sodium bisulphate or sodium metasulphite; and said facilitators include triethanolamide, triethlamine or their N , N ´ ethylenediamine substances which contains substituting groups.

In the above mammary prosthesis, said shell 2 has a round curved surface.

The objects of the present invention also can be achieved by constructing a mammary prosthesis made of polyacrylamide hydrogel, comprising a shell 2 that is made of medical high polymer elastic material; said shell 2 is filled with dry powder 3 of polyacrylamide hydrogel whose weight is matched with the value of the circular shell, that is to say, each 100ml volumes of the shell could be filled with 2.5—7 grams of said dry powder 3. Wherein said shell 2 has a non-return valve 1.

In the above mammary prosthesis, each 100ml volumes of the shell 2 could be filled with 4 grams of said dry powder 3.

In the above mammary prosthesis, said medical high polymer elastic material is silicone.

In the above mammary prosthesis, said polyacrylamide hydrogel dry powder in weight comprises 2.5 – 8 units of acrylamide, 0.001 - 3.0 units of cross-linking agent, 0.001 –4 units of catalyst, 0.001 - 2.00 units of accelerator, 0.001 - 2.00 units of facilitator.

In the above mammary prosthesis, said cross-linking agent is N , N ′ -methylenebisacrylamide and its homologous compound, or N , N ′ -diallyltartratdiamide; and said catalyst is ammonium persulfate or kalium persulfate; and said accelerator can be sodium bisulphate or sodium metasulphite; and said facilitators include triethanolamide, triethlamine or their ethylenediamine substances which contains substituting groups.

In the above mammary prosthesis, said shell 2 has a round curved surface.

In the above mammary prosthesis, said non-return valve 1 is located in the center of one face of said round shell 2.

The mammary prosthesis made of polyacrylamide hydrogel of the present invention has the advantages of feeling true, convenience for use, non-toxicity after long-term, safety and without sequela, etc.

The present invention will be understood by reference to description taken in conjunction with accompanying drawing in which:

BRIEF DECRIPTION OF THE DRAWINGS

Figure 1 is a side view of the mammary prosthesis made of polyacrylamide hydrogel in an embodiment of the present invention.

Figure 2 is a front view of the mammary prosthesis made of polyacrylamide hydrogel in another embodiment of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

As shown in figure 1, the mammary prosthesis made of polyacrylamide hydrogel of the present invention has an outer shell 2 which has a round curved surface. Said shell 2 is made of flexible silicon, and a non-return valve 1 is located in the center of one face of said shell 2. Said valve 1 is used for injecting saline into the prosthesis after it is implanted into the human body. Beforehand said shell 2 is filled with dry powder 3 of polyacrylamide hydrogel whose weight is matched with the volume of said circular shell 2; for example each 100ml volumes of the shell could be filled with 2.5—7 g (4g

preferably) of said dry powder 3.

As shown in figure 2, in another embodiment of the present invention, the prepared polyacrylamide hydrogel 4 is filled in the shell beforehand. The shell 2 should have a round curved surface. And the shell needs no non-return valve.

In the above embodiments, the polyacrylamide hydrogel is prepared in the following way: take cross-linked acrylamide as the base, and diffuse proper amount of acrylamide, cross-linking agent, catalyst, accelerator and facilitator into sterile secondary distilled water to polymerize, then the gel resulted from this kind of polymerization is washed, soaked and extracted, and finally medical gel of different cross-linking degrees and densities is prepared.